

### **REMARKS**

Reconsideration of this application, as presently amended, is respectfully requested. Claims 1-7, 9-12 and 15-17 are pending in this application. Claims 1-5 stand rejected. Claims 6-7, 9-12 and 15-17 were withdrawn from consideration as being directed to a non-elected invention.

### **Claim Rejections – 35 U.S.C. §103**

Claims 1-2 and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Osawa et al.** (JP 05027180 A, previously cited) in view of **Zhang et al.** (USP 6,977,379, previously cited) and **Corle et al.** (USP 5,121,256, previously cited). Claims 3 and 4 are rejected under 35 U.S.C. §103(a) as being unpatentable over **Osawa et al.** in view of **Zhang et al.** and **Corle et al.** as applied to claims 1 and 2 above and further in view of **Ferrell et al.** (USP 5,018,865). For the reasons set forth in detail below, these rejections are respectfully traversed.

Initially, it is noted that claim 1 has been amended to clarify that “the said solid immersion lens having a base plane on which a specimen is ~~to be~~ disposed in direct contact with the solid immersion lens.” Support for this amendment is provided, e.g., in Fig. 1 wherein the specimen 6 is in contact with the solid immersion lens 2. Further, claim 1 has been amended to recite “an antenna formed of an electrically conductive material, the antenna having a probe disposed away from said base plane of said solid immersion lens at a distance not more than 1/4 of an effective wavelength of the light.” Support for this amendment is provided, e.g., on page 12, lines 6-8 of the application specification.

In the Amendment filed on June 5, 2007, it was argued that none of the references disclose or suggest the claimed (1) “*antenna having a probe disposed away from said base plane of said solid immersion lens at a distance not more than 1/4 of an effective wavelength of the light.*” With respect to this argument, it was also emphasized that none of the references disclose the claimed distance from the probe to the solid immersion lens, specifically, *a distance not more than 1/4 of an effective wavelength of the light.*

Further, in the Amendment filed on June 5, 2007, it was argued that none of the references disclose a (2) “*solid immersion lens for accepting an incident light or emitting an outgoing light, said solid immersion lens having a base plane on which a specimen is to be disposed.*”

In the ***Response to Arguments*** set forth on pages 6 and 7 of the Office Action, the Examiner responds to the patentability arguments summarized above as follows:

Applicant argues that the optical fiber probe of Osawa is not an antenna and does not function as an antenna. The Examiner respectfully disagrees. The specification does not provide a definition of an antenna, so one would turn to the standard definition of an antenna, which is a usually metallic device (as a rod or wire) for radiating or receiving radio waves (*Merriam Webster's Collegiate Dictionary, Tenth Edition*). The optical probe of Osawa receives waves (in this case light waves, like in the instant invention) and therefore is an antenna *within the broadest reasonable interpretation*. It is also noted that the probe of Osawa picks up a near field from said specimen in a region of the pointed tip of said probe upon causing it to geometrically resonate and then to emit it as a wave propagating in the medium of the lens (see at least the abstract and figs. 1 and 2 of Osawa) which is what the antenna of the instant invention does.

The Examiner further asserts:

In response to applicants argument that Corle et al. does not disclose or suggest the antenna having a probe disposed away from said base plane of the said solid immersion lens at a distance not more than  $\frac{1}{4}$  of an effective wavelength of the light, the test for obviousness is not whether the features of the secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather the test is what the combined teaching of the references would have suggested to those of ordinary skill in the art....Corle et al. does teach a light condensing apparatus including a solid immersion lens (19) and *the impact of a path distance of  $\frac{1}{4}$  wavelength to the system* (column 3, lines 13-19) as outlined above, therefore the combined teachings suggest a critical distance of not more than  $\frac{1}{4}$  of an effective wavelength of light. [emphasis added]

First, it is respectfully submitted that the response to the argument regarding the distance from the probe to the solid immersion lens (i.e., *a distance not more than 1/4 of an effective wavelength of the light*), is not supported by the requirements of §103 and is therefore improper and should be withdrawn.

Specifically, as set forth in the Manual of Patent Examining Procedure (MPEP) §2143.03 “To establish *prima facie* obviousness of a claimed invention, *all the claim limitations* must be taught or suggested by the prior art.” *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The **Corle et al.** reference does not disclose or suggest “an antenna having *a probe* disposed away from *said base plane of said solid immersion lens* at a distance not more than  $\frac{1}{4}$  of an effective wavelength of the light.” **Corle et al.** discloses that the distance from the top of the *sample* to the bottom of the *solid immersion lens* is  $\lambda/4$  and is completely silent regarding the distance of a probe to a base plane of a solid immersion lens. See Fig. 4 of **Corle et al.**

Thus, **Corle et al.** does not disclose or suggest the feature of “*a probe* disposed away from *said base plane of said solid immersion lens* at a distance not more than 1/4 of an effective wavelength of the light.” Accordingly, the rejection under §103 is improper and should be withdrawn for at least this reason.

Second, with respect to the argument (2) above, it was emphasized that neither **Zhang** nor **Corle** disclose a specimen disposed *on* the base plane of the solid immersion lens.

In response to the argument (2) above, the Examiner asserts:

It should be noted that the claims recite open-ended language, therefore, it does not matter that the specimen is also on the crystal but only that [it] is also on the base plane of the solid immersion lens. Thus, reliance upon the Zhang reference is appropriate

As noted above, claim 1 has been amended to recite “*the said solid immersion lens having a base plane on which a specimen is disposed in direct contact with the solid immersion lens.*” Unlike the presently claimed invention, as shown in Fig. 4 of **Zhang**, the sample 18 is not *directly* on top of (i.e., in direct contact with) the solid immersion lens H1 (the sample 18 is directly on the transceiver crystal 412).

Further, as noted above, claim 1 was amended to recite “*an antenna formed of an electrically conductive material, the antenna having a probe disposed away from said base plane of said solid immersion lens at a distance not more than 1/4 of an effective wavelength of the light.*” Unlike the presently claimed invention, the fiber optic probe of **Osawa** is not an electrically conductive antenna.

Moreover, as disclosed in paragraphs [0003] and [0022] of **Osawa et al.**, the open end of the optical fiber probe made of optical fiber, such as glass, has a dimension much smaller than the wavelength of light to pick up the evanescent wave. This type of optical fiber probe is not referred to or known as an antenna by those skilled in the art because a dimension of an antenna is on the order of wavelength. Therefore, the optical fiber probe made of glass in **Osawa et al.** and the antenna formed of electrically conductive material of the present invention are different parts used in this technical field.

In view of the above amendments and remarks, it is respectfully submitted that claim 1 and claims 2-5 which depend therefrom, patentably distinguish over the combination of references, and therefore define allowable subject matter. Reconsideration and withdrawal of the rejections under §103 are respectfully requested.

### **CONCLUSION**

In view of the foregoing, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

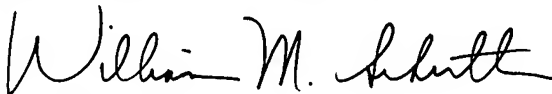
Application No. 10/519,078  
Art Unit: 2872

Amendment under 37 C.F.R. §1.116  
Attorney Docket No.: 043115

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

**WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP**

A handwritten signature in black ink, appearing to read "William M. Schertler". The signature is fluid and cursive, with the first name "William" being the most prominent.

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